

**REMARKS**

Claims 1, 3, 6-8, 10, 12-14, 17 and 20 are pending in this application. By this Amendment, claim 1 is amended. This amendment is supported by Applicants' specification at least at, page 7, line 6 - page 8, line 8, page 11, lines 7-17, and Figs. 2-4 and 9. No new matter is added. A Request for Continued Examination is attached. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

The Office Action rejects claims 1, 3, 6-8, 10, 12-14, 17 and 20 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Claim 1 is amended to obviate this rejection.

Accordingly, reconsideration and withdrawal of the rejection of claims 1, 3, 6-8, 10, 12-14, 17 and 20 under 35 U.S.C. §112, second paragraph, are respectfully requested.

The Office Action rejects claims 1, 3, 6-8, 10, 12-14, 17 and 20 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,321,540 to Goulianian et al. (hereinafter "Goulianian") in view of U.S. Patent No. 4,052,706 to Spitz et al. (hereinafter "Spitz"), U.S. Patent No. 7,200,097 to Meyrueis et al. (hereinafter "Meyrueis") and U.S. Patent No. 5,844,700 to Jeganathan et al. (hereinafter "Jeganathan"). This rejection is respectfully traversed.

The Office Action concedes that Goulianian does not teach that the data blocks contained in each page are further identified by a number assigned to the blocks and the block of data can be accessed via the assigned block number. The Office Action asserts that Spitz, Meyrueis and Jeganathan remedy these shortfalls of Goulianian. The analysis of the Office Action fails for the following reason.

Claim 1 recites, among other features, forming data pages assigned the same page number, on a line that extends through the holographic recording layers, each of the data pages formed in a respective layer by angle-multiplex-recording interference fringes, using a

common reference beam that extends, along the line, and a respective one of a plurality of object beams having each object beam having a different incident angle to holographic recording layers.

Goulian teaches at, *e.g.*, col. 6, lines 11-18, that hologram matrices are recorded on separate layers and then the hologram layers and cladding layers are sandwiched together forming an optical contact between them, thus producing the multilayer waveguide holographic data storage carrier. Thus, Goulian would not have suggested each of the data pages formed in a respective layer by angle-multiplex-recording interference fringes, using a common reference beam that extends, along the line, and a respective one of a plurality of object beams each object beam having a different incident angle to holographic recording layers, because Goulian teaches recording a single layer at a time with a first signal beam 70 and a second beam which is used to form a reference beam 28.

Spitz teaches at, *e.g.*, col. 5, lines 47-48, the optical recording 29 comprises storage areas recorded in clear language. Spitz would not have suggested a recording with more than one recording layer.

Meyrueis teaches at, *e.g.*, col. 3, line 18, a recording medium 103. Meyrueis would not have suggested a recording medium with more than one recording layer.

Jeganathan teaches at, *e.g.*, col. 4, line 44, that the medium comprises an element 40. Jeganathan would not have suggested the element 40 with more than one recording layer.

Thus, Spitz, Meyrueis and Jeganathan would not have suggested more than one recording medium or a medium with more than one layer and, therefore, would not have suggested a plurality of object beams having different incident angles to respective holographic recording layers. Thus, Spitz, Meyrueis and Jeganathan as applied to claim 1 do not remedy these shortfalls of Goulian.

Further, claim 1 recites, among other features, impinging a laser beam for reproduction on the multi-layer holographic recording medium, to generate respective diffraction beams simultaneously from the respective holographic recording layers in the same direction as that of the respective object beams.

Goulian teaches at, *e.g.*, col. 4, lines 37-42, that as shown in Figs. 2a and 2b, a readout beam 20 penetrates into a waveguide layer through coupler 15i (or 16i) and that the readout beam propagates along respective row ij as a guided wave 21ij and reconstructs radiation beams 22ijk from all its holograms simultaneously. Goulian would not have suggested the laser beam incidents to the recording areas of the same data page number in the respective holographic recording layers simultaneously, as recited in claim 1, because Goulian teaches the readout beam penetrating a single waveguide layer at a time. As argued above, Spitz, Meyrueis and Jeganathan would not have suggested more than one recording medium. Thus, Spitz, Meyrueis and Jeganathan as applied to claim 1 do not remedy these shortfalls of Goulian.

Claim 1 recites, among other features, data pages assigned the same page number, on a line that extends through the holographic recording layers, a common reference beam that extends, along the line and shift-multiplex-recording over an entire area in the respective holographic recording layers a plurality of the data pages, the data pages being assigned page numbers from 1 to M.

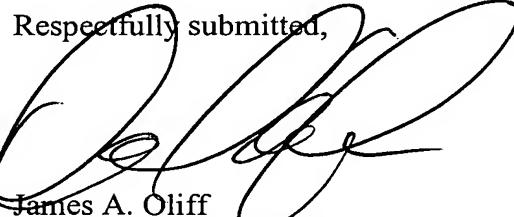
As noted above, Goulian teaches a multilayer recording medium. Goulian would not have suggested, data pages assigned the same page number, on a line that extends through the holographic recording layers because, as argued above, Goulian would not have suggested the laser beam incidents to the recording areas of the same data page number in the respective holographic recording layers simultaneously and therefore Goulian would not have suggested a line that any data areas are on so that they can be assigned a number.

For at least the foregoing reasons, the combination of Goulanian with Spitz, Meyrueis and Jeganathan cannot reasonably be considered to have suggested the combination of all of the features recited in claim 1. Further, combination of Goulanian with Spitz, Meyrueis and Jeganathan cannot reasonably be considered to have suggested the combinations of all of the features recited in claims 3, 6-8, 10, 12-14, 17 and 20 for at least the dependence of these claims on allowable base claims, as well as for the separately patentable subject matter that each of these claims recites.

Accordingly, reconsideration and withdrawal of the rejection of claims 1, 3, 6-8, 10, 12-14, 17 and 20 under 35 U.S.C. 103(a) as being unpatentable over Goulanian in view of Spitz, Meyrueis and Jeganathan are respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3, 6-8, 10, 12-14, 17 and 20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,  
  
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Attachments:

Petition for Extension of Time  
Request for Continued Examination

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